

1.8 Earthquakes in the developing world

+ In this section you will find out about the impacts of earthquakes in developing countries, and how people respond to them.

Death and destruction

Earthquakes in the developing world often have very high death tolls compared to volcanoes. Destructive earthquakes happen regularly, as the table shows.

Location	Year	Deaths	Magnitude	Key facts
Java, Indonesia	2006	5,800	6.3	135,000 homes destroyed. 1.5 million homeless
Kashmir, Pakistan	2005	86,000	7.6	One third of deaths were due to landslides. Many children died in collapsed schools.
Aceh, Indonesia	2004	290,000	9.3	The second largest death toll in history, mostly due to the tsunami it created.
Bam, Iran	2003	30,000	6.6	Many people were trapped when their mud-brick homes collapsed.

+ A **tsunami** is a series of waves produced by an undersea earthquake. Tsunami waves travel across the ocean at over 400 km/h. They can be 10m high when they hit the coast.

Local responses

Heavy rain, landslides and aftershocks made the rescue effort difficult:

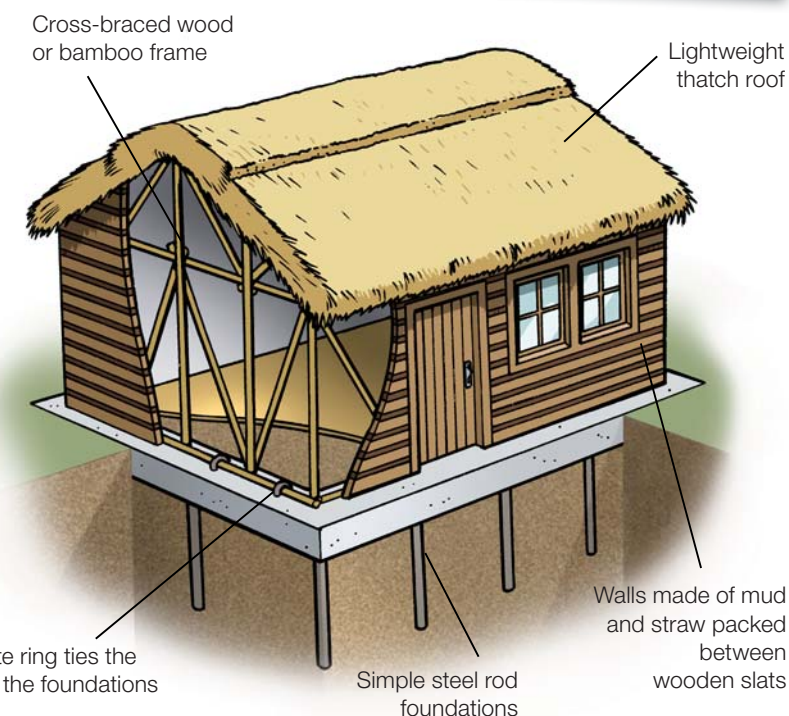
- The Prime Minister, Wen Jiabao, flew to the area very soon after the earthquake
- 50,000 soldiers were sent to help dig for survivors
- Helicopters were used to reach the most isolated areas
- Chinese people donated \$1.5 billion in aid.

International responses

China quickly asked the rest of the world to help:

- Some countries sent money. The UK gave \$2 million.
- Finland sent 8000 six-person tents, and Indonesia sent 8 tonnes of medicines.
- Rescue teams flew in from Russia, Hong Kong, South Korea and Singapore.

Aftershocks often occur as the fault 'settles' into its new position. They can injure or kill rescuers. In the developing world, aftershocks often destroy buildings that were weakened by the first earthquake.



Building for the future?

The Sichuan earthquake caused over 700 schools to collapse. China has strict building rules, so schools should have withstood the shaking. Even in a poorer developing country buildings can be made cheaply that withstand earthquakes. The diagram opposite shows how.

your questions

- 1 Explain why the Sichuan earthquake happened. Remember to include plate names and boundary types.
- 2 **a** Make a list of all the effects of the Sichuan earthquake
b Use two colours to circle social effects (effects on people) and economic effects (effects to do with money).
- 3 Look back on the effects of the 2 volcanoes and 2 earthquakes you have studied.
a Compare the death tolls and damage caused
b Try to explain the differences
- 4 This is an examination style question: Explain why earthquakes happen on destructive plate margins. You may draw a diagram to help with your answer (4 marks)

Many of the areas hit were poor and rural.



The Indian plate and Eurasian plate are colliding. This has created the Himalayas. Earthquakes are common in this collision zone.

The epicentre was close to Wenchuan where 80% of buildings collapsed.

Earthquake in Sichuan

Sichuan is an area in central China. On May 12th 2008 it was hit by a magnitude 8.0 earthquake. There was no warning. The **primary effects** of the earthquake were huge:

- 70,000 deaths
- 400,000 injured
- 5 million people homeless
- Up to \$75 billion in damage

There were up to 200 **aftershocks**. On May 27th a magnitude 6.0 aftershock caused 420,000 buildings to collapse.

+ **Primary effects** – caused instantly by the earthquake. Roads crack, walls collapse and landslides happen.

+ **Secondary effects** – in the hours, days and weeks after the earthquake. Fires break out, disease spreads and food and water run short.

The earthquake was felt in Beijing and Shanghai, over 1500km away.